

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Stephen C. Olson

Art Unit :

Serial No. :

Examiner :

Filed : November 26, 2003

Title : FLUID-ENERGY MILL

Commissioner for Patents

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PRELIMINARY REMARKS

These remarks are in response to an office action in the Parent Application Serial No. 10/120,929, mailed on August 27, 2003 (the "Office Action"). Claims 1-48 are now pending. Claims 1, 16, 30, and 42 are in independent form. Claim 1 substantially corresponds to claim 6 of the Parent Application. Claims 2-5 substantially correspond to claims 2-5 of the Parent Application. Claims 6-10 substantially correspond to claims 7-11 of the Parent Application. Claim 42 substantially corresponds to claim 12 of the Parent Application.

**I. Objections to Drawings**

In the Office Action, the Examiner objected to the drawings under 37 C.F.R. § 1.83(a) as failing to show every feature specified in the claims. Applicant respectfully traverses this objection. The Examiner objected to the drawings as failing to show the "cycloid shape of the grinding chamber," as recited in claim 5. The cycloid shape of grinding chamber 40 is shown, for example, in Figures 3, 8, and 9. The Examiner also objected to the drawings as failing to show the "elliptical hole at the intersection of the feed gas inlet and the particle funnel," as recited in claim 9. Elliptical hole 63 is shown in Figure 5. To more clearly show elliptical hole 63, Figure 5 has been amended in the CIP Application to remove a curved line that was inadvertently drawn inside elliptical hole 63.

**II. Rejections Under 35 U.S.C. § 112**

The Examiner rejected claims 6-8 of the Parent Application under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicant has amended the claims to address the Examiner's concerns.

### **III. Rejections Based on Prior Art**

#### **A. Rejections Based on Trost**

The Examiner rejected claims 1-3, 5, 9, and 11 of the Parent Application as being anticipated by Trost, under 35 U.S.C. § 102(b), claim 4 of the Parent Application as being obvious over Trost in view of Brown, under 35 U.S.C. § 103(a), and claim 10 of the Parent Application as being obvious over Trost, under 35 U.S.C. § 103(a). Applicant respectfully traverses these rejections. Independent claim 1, as amended in the CIP Application, relates to a fluid-energy mill for size-reduction of material. The mill includes a manifold defining a grinding chamber, a gas inlet, a feed inlet, and an outlet. The grinding chamber has a center and a first radius extending from the center. The feed inlet is positioned such that the material enters the grinding chamber tangent to a second radius extending from the center, the second radius being larger than the first radius.

Trost does not disclose or suggest at least the claimed feed inlet positioned such that the material enters the grinding chamber tangent to a second radius that is larger than a first radius of the grinding chamber. Rather, as shown in Figures 1 and 10, Trost discloses an impact chamber 56 for reducing particle size. Particles enter the impact chamber 56 through a central opening 51 in block 49, wherein the central opening 51 is aligned with the center of the impact chamber 56, not with a radius larger than the impact chamber 56. The Examiner's rejection equates classification chamber 44 of Trost with the claimed grinding chamber. However, classification chamber 44 does not reduce the size of the particles. In addition, particles enter classification chamber 44 through offtake leg passage 46, which is tangent to a radius equal to, but not greater than, the radius of the classification chamber 44. Therefore, Applicant submits that claim 1, as amended in the CIP Application, and claims 2, 3, 5, 8 and 10 dependent therefrom<sup>1</sup> are patentable over Trost for at least the reasons discussed above.

Brown does not overcome the deficiencies in Trost, discussed above. In Brown, nuts enter a grinding disc 62 via a hopper 146, which feeds the nuts into the center of the grinding

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<sup>1</sup> Claims 9 and 11 of the Parent Application have been renumbered as claims 8 and 10, respectively, in the CIP Application.

disc 62, not at a radius greater than the radius of the grinding disc. For at least these reasons, the claim 4 of the CIP Application is patentable over Trost in view of Brown.

**B. Rejections Based on Beliavsky**

Claims 1 and 6 of the Parent Application were rejected as being anticipated by Beliavsky, under 35 U.S.C. § 102(b), and claims 7 and 8 of the Parent Application were rejected as being obvious over Beliavsky in view of Trost, under 35 U.S.C. § 103(a). Applicant respectfully traverses these rejections. Beliavsky does not disclose or suggest at least “the feed inlet... positioned such that the material enters the grinding chamber tangent to a second radius extending from the center, the second radius being larger than the first radius,” as recited in claim 1, as amended in the CIP Application. Rather, Beliavsky discloses that particles enter a milling chamber 2 either through a sealable opening 8 or through a nozzle 7. (Beliavsky at col. 8, lines 1-9). As shown in Fig. 1 of Beliavsky, sealable opening 8 is located tangent to a radius that is smaller than the radius of chamber 2. As shown in Fig. 2 of Beliavsky, nozzle 7 is “tangential” to the radius of chamber 2, not to a larger radius. Therefore, Applicant submits that claim 1, as amended in the CIP Application, is patentable over Beliavsky for at least the reasons discussed above.

As discussed above, Trost does not overcome the deficiencies in Beliavsky. For at least these reasons, dependent claims 6 and 7 of the CIP Application<sup>2</sup> are patentable over Beliavsky in view of Trost.

**IV. Conclusion**

Applicant requests allowance of all claims. Please apply any charges or credits to deposit account 06-1050.

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<sup>2</sup> Claims 7 and 8 of the Parent Application have been renumbered as claims 6 and 7, respectively, in the CIP Application.

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Attorney's Docket No.: 02243-038001

Respectfully submitted,

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